

HOW TO STUDY MATERIA MEDICA

C. WESSELHOEFT, M. D.

B
607

The
Maesimund
Banning
Panos
Library



Gift of
AFH

HOW TO STUDY MATERIA MEDICA.

Three Lectures

BY

C. WESSELHOEFT, M.D.,

PROFESSOR OF PATHOLOGY AND THERAPEUTICS IN BOSTON UNIVERSITY
SCHOOL OF MEDICINE.

BOSTON:

OTIS CLAPP & SON, 3 BEACON STREET.

1887.

NLM

PREFACE.

THE following pages contain a corrected and revised reprint from the NEW ENGLAND MEDICAL GAZETTE (vol. xxii. Nos. 4 to 6), of several lectures delivered from time to time at the Boston University School of Medicine. These lectures were published at the request of graduates; and it is the hope of the author that they will be of assistance to students, not only by suggesting rules for the study of *materia medica*, but also by facilitating this study with explanations of the reasons for the methods employed.

C. WESSELHOEFT.

BOSTON, August, 1887.

HOW TO STUDY MATERIA MEDICA.

I.

INTRODUCTION.

BEFORE entering upon detailed description of methods of acquiring knowledge of medicines to be applied in converting diseased conditions of the human body into health, it seems to me that you would ask me to tell you how it was ever discovered that medicines cure. I know, furthermore, that your own experiences are like mine and those of many others, when, entering upon medical studies, we were first confronted with ponderous tomes filled with multitudinous descriptions of drug effects. The question which then appals us is: Shall we acquire the power to cure disease by mastering so much? It seems almost insurmountable, but if it enables us to cure the sick, let us never rest until we have accomplished the task. There is no doubt that you would undertake the work with greater fervor if I could say to you: Take my word for it as your instructor, that it will repay you to master every word of your books on *materia medica*; because it has always been known that medicines cure diseases.

Unfortunately for us all, I would commit myself to an unwarrantable statement, did I formulate my reply to your question in this way. I shall have to deliberate carefully before stating what we really know concerning the curative power of medicines, for we should possess an approximate idea concerning this before committing to memory what is supposed to be a mass of hard facts.

The statement which I think I can conscientiously venture to make, is that nowhere in the history of medicine is there to be found a definite and organized attempt to prove that medicines possess curative power. You marvel at that, and yet it is so. How, then, do we know any thing about it? I answer, that our knowledge concerning the curative power of medicines is almost exclusively derived from non-experimental experience. This experience is due partly to accidental observations; that is, cures

were seen to result from the accidental or perhaps hap-hazard use of certain drugs; again it is due to intentional uses of drugs; and when it was perceived that after the use of medicines certain predetermined effects followed, such as purging or vomiting, and that after these recovery followed in perhaps a majority of cases, the inference was drawn from both sources that medicines cure the ailments of the human organism.

To state the case in the more concise phraseology of logicians, our knowledge of drugs as curative agents (medicines) is deductive, resting only to a small extent on inductively established data. We assume to be true what our predecessors have inferred for centuries, and we derive our conclusion from certain *à priori* data or observations. Now I would not have you think that this is necessarily a weakness peculiar to physicians: by no means; for a vast amount of our practical knowledge in daily life, the knowledge by which we live and have our being, is the result of simple deduction from *à priori* data, while only a small proportion of what might be termed the more accurate branches of human knowledge is strictly based upon inductive methods of obtaining information.

It may be said in behalf of "medicine," that of late years a greater degree of general knowledge has been attained by purely inductive research and experiment.

But I hear you say: Are we not taught that the founder of homœopathy inaugurated the era of inductive research in medicine, and that he firmly founded his system upon it? In a general sense this is quite true, and we are justly proud of it; but let us look at it dispassionately, that is philosophically, and I think that we shall find that Hahnemann, though not strictly the first to introduce exact methods of experimentation into the study of *materia medica*, was the first and most influential man of science who insisted that the only way to know any thing of drug-effects was by direct experimental research, which he termed the proving of drugs; though he was not the first who did this, he was the first who elaborated carefully-planned inductive principles according to which drug-proving should be conducted. He was the first and foremost to insist and demonstrate by cogent reasoning, that only by testing drugs upon the healthy human organism we could know how and when to employ drugs in the cure of disease.

What I desire to make clear to you is just how far the power of medicines to cure, and the system of homœopathy, was built by its founder upon the solid ground of inductive research.

Although before Hahnemann's time, physicians sought for and attributed special (specific) curative powers to medicines, they commonly considered curative results as due to certain

violent primary effects, such as purging, vomiting, sweating, stimulation, or tonic effect; and whatever could not be forced into one of these categories was termed alterative. From one or another of these properties, recovery was and is now supposed to follow as a secondary consequence.

It was by Hahnemann's sagacious intuition, that, from a circumstance almost imperceptible to others, he found a formula according to which the curative power of medicine was brought into rational relation with the pathogenic or disease-producing power of medicines. This was an induction, it is true, but one which he supported by his single, almost insignificant experiment with Peruvian bark, showing that this medicine is capable of causing a kind of fever. As it was known and accepted before that Peruvian bark cured certain fever, it remained only for Hahnemann to draw the ingenious inference, that, as this medicine causes fever, and as the same medicine is also known to extinguish that fever, it follows that medicines cure by virtue of their pathogenic power, *similia similibus curantur*.

On the basis of this single induction, corroborated by numerous deductions drawn from pre-existing experience recorded by others, Hahnemann, by a most comprehensive generalization, applied his formula to all drugs, vegetable and mineral, organic and inorganic, alike.

The inductive method, therefore, was applied by Hahnemann only in a single china-experiment, which served to connect the before-known curative relation of this medicine with disease. It was not applied by him to prove the existence of the curative power of medicine in general; but, if the testimony of his single attempt with china is taken as valid evidence, the proof of the curative power of medicine follows from the discovery of the conditions (*similia similibus*) under which cures occur.

Though it was this one observation which served Hahnemann as a basis for his vast structure, it deserves the name of an idea as great as it was daring. After its inception and proclamation, it was corroborated by other tests with other medicines. Whether it is universal and infallible, is a question for the future to determine; whatever the verdict, it will not be safe unless it rests on more than one experimental test.

When Hahnemann applied the inductive method extensively, it was for the purpose of discovering the pathogenetic properties of drugs; for these, as he concluded, contained the curative conditions. For this purpose he instituted many experiments, and caused others to make them: so, in this sense almost exclusively, did he employ the inductive method.

What is yet to be more clearly demonstrated are the conditions under which medicines cure, and that these conditions apply

to all classes of drugs; or to discover whether there are exceptions, and whether these conditions vary.

Here we stand to-day in two antagonistic factions. I think that if a part of the assiduity and acumen of experimenters were directed towards the demonstration, by *inductive* methods, in how far the deductive inference concerning the curative power of medicines is true under Hahnemann's law of similars, or under the theories advanced by other schools, if they could in future determine whether the curative power is relative or positive, whether limited or general, this would greatly encourage the study of the vast array of observations,—facts, if you will,—which make up the *materia medica*.

I am convinced that it is demonstrable by inductive research, though it may take a lifetime; and I also hold that if so demonstrated, the curative principle will largely rest on what Hahnemann termed the principle of similars. But in asserting this I confess that I have no other ground for my conviction beyond what is common to us all: knowledge derived by deduction from simple non-experimental observation.

You would be entirely in the wrong to draw the inference, from the above explanation, that what we now call our *materia medica*, and what we make use of as therapeutic principles, are wholly unsupported by correct observations and deductive reasons; these must take the place of inductive knowledge till the latter has been fully supplied.

If we erase unhesitatingly every thing of a doubtful nature, if our therapeutic principle were applicable to ever so small a part of what is now collected as *materia medica*, you would find this small part and the rules of its application quite large enough to fill up all the time you can possibly devote to it in the course of your studies. Indeed, we have barely time to discuss that small portion alone; and it is to the methods of studying this useful though small part of our *materia medica* that I now invite your attention.

After this introduction I feel free to proceed, my mind being no longer hampered by the thought that all is not understood between us; since though we may view the subject from different points, each comprehends the grounds of the position of the other.

PERSONAL PROVINGS AND CHOICE OF BOOKS.

Whenever I approach the subject of *materia medica*, I am met by the objection that it is the most difficult study of all. Why is this? It appears, after some careful inquiry into the origin of this notion, that it arises partly, it is true, from the nature of *materia medica* as a branch of study; but to a larger part from

the qualification of the student. While it is true, as I mean to show, that the *materia medica* is in many cases arranged too much like a dictionary to be mastered by study other than dry memorizing, it is also true that the degree of preparation for study which some medical students bring to bear upon the subject is not quite adequate to the task of arranging their work methodically. It is this faculty of methodical arrangement of a subject of study, upon which its acquisition depends. If one has had but little training in study of any kind, no matter how great his natural intelligence may be, the acquisition of learning from books, lectures, and ocular demonstration, to him will be difficult, while it is no difficult task to one of even moderate capacity whose early years were profitably employed in learning how to learn. This is the object of schools and colleges; if not, they miss their mark.

To say that *materia medica* is more difficult than other branches of medical science, has grown into a kind of ill-founded tradition, handed down from one class to the next; but I am convinced that you will soon discover that when you have once learned one of several ways to properly arrange your subject, you will not only find it as easy as you seem to consider anatomy, physiology, or chemistry; but you will delight in *materia medica* as the easiest of acquisition, provided you bring with you real fondness and some preparatory training for study.

Now let me lead you directly into the subject. You have undoubtedly all heard the word "proving." To prove means to test or to try a thing; in this case it means to try medicines upon yourselves. As a method of studying the *materia medica* there is no surer, no more practical manner of acquiring accurate and trustworthy knowledge of the action of drugs upon the (healthy) organism than to test them upon yourselves, as well as upon animals.

If, before being prepared for it, you have unfortunately allowed yourselves to be startled by the interminable symptom-lists of the "Encyclopedia," or even some condensed *materia medica*, and to have been led to think the proving of a drug means that the prover should produce page after page of description of his ill feelings after taking one or more doses of some drug, you are, fortunately for you, much mistaken. Let me offer you some consolation in this matter. If I sum up the experience of provers in general, and combine them with my own, it would result in saying that the only reliable provings are short descriptions of intelligible, congruous facts. An experimenter in this study may make many trials, the more the better; these, described in succession, may form a chapter of some length; but the statement of each individual result will be brief, if true. Let me remind

you that very long narratives of disjointed and incongruous sensations, often apparently of extreme suffering, closely resembling death-agony, are useless and the result of too lively an imagination, or of too great susceptibility, or of ambition.

Do not fear, therefore, to inaugurate your study of *materia medica* with short experiments in drug-testing. If you do not know how to begin, request your instructors to select some drugs for you, and tell you how to take them. You will run no risk to begin with the fourth decimal attenuation of any drug, and try a few doses of this, and the next attenuations below till you arrive at the pure drug if necessary. Take pains to note effects. Proving should not require much time, for the system of healthy young persons rapidly recovers from slight effects. Make what I have termed rapid provings of a set of drugs; one can be tried every week, and in the course of your second and third years of study you will certainly find time to make a set of short provings or sketches of drug-effects which will be of service to you through your practical career.

It will not interfere with your studies. It will impress your minds with the main features of drug-effects much more accurately and truthfully than any book can possibly do. To read only about drug-effects, without at the same time testing them, will fill your minds with prejudices if not with hypochondriacal notions; while proving upon yourselves will destroy prejudices and ill-digested impressions derived from mere reading, especially the most pernicious of all, the reading of symptom-lists in dictionary form.

None of us have an idea of a symptom (sign of disease) till we have felt it, experienced it, whether produced at will by taking some drug, or by catching cold, or from illness of any kind.

If all drugs possess the power to cure disease, as assumed before and after Hahnemann's time, the only way to utilize that property is to know just how drugs will affect the human (animal) organism.

There are many reasons why personal experiment (inductive research) should precede the study of books on *materia medica*. Without personal experience all literature is to us only partially intelligible. If you have carefully dissected the human body, the descriptions and diagrams of your text-books of anatomy will be not only intelligible, but easily remembered by you.

Just so with *materia medica*. With personal experience regarding the effects a drug is capable of producing, you will comprehend the meaning of books and words which would otherwise convey no meaning at all, or, worse still, give you a confused impression. When you have sharpened your faculties of observation by having once observed even slight discomforts of drug-

action, you will find yourselves prepared to make nice distinctions. While at one time symptoms about which you read as belonging to different drugs, appeared all alike to you, the same, after having been experienced, will seem very different ; because personal experiences will sharpen your perceptions to distinguish differences.

Having obtained this personal experience, you are prepared to appeal to your books for further instruction. You will now read intelligently and profitably. You will read critically, and readily distinguish genuine from spurious statements. You will perceive at once whether an author of a text-book on *materia medica* has stated facts, and has selected his quotations intelligently from authentic sources. By doubts you will often be led to consult the sources from which your author drew, and find that either these were not good and original, or that the text was not correctly quoted.

When you search for books on *materia medica*, I would earnestly advise you to select only such books or treatises which contain the original narrative of provers, and to avoid, for the present, repertories and re-arranged anatomical symptom-lists. I would avoid them for the reason that the original and intelligible pathological context of an experimenter's narrative, which is always fascinating, has been destroyed by the dictionary form of anatomical arrangement. It conveys no meaning to you, but a volume of phrases. It is of great value to the practitioner, but offers only an almost insurmountable difficulty to the student.

Put aside all these anatomically arranged books, like Hahnemann's "Pure *Materia Medica*," "Allen's *Encyclopedia*," Hering's *Condensed*, etc., and now that it is being published, select the new "*Cyclopædia of Drug Pathogenesey*" as edited by Dr. Hughes. This gives you unadulterated drug-effects, in the order of their occurrence. But there are various other ways of obtaining knowledge of drug effects. You will find in various compilations, such as the *United States Dispensatory*, concise statements of the chief and most prominent effects of drugs under the misnomer of "physiological" effects, and also under the heading "properties and uses." Aside from the heading of such paragraphs, they will furnish you with a rough sketch of drug-effects; such a sketch is of great value. When once comprehended it will render the study of the more extended account, e.g., in Dr. Hughes' work, quite intelligible and easily remembered.

Such brief sketches together with longer ones are contained in many works which are not by authors of the homœopathic school. Taylor's "*Medical Jurisprudence*" contains a great many sketches of that kind where poisons are discussed ; especially so

Taylor on Poisons; I would not hesitate to recommend the perusal of the brief outlines of toxicology which Bartholow's "Materia Medica" affords; you will save yourself much time, however, by confining your reading only to what that author terms "physiological effects." The first two editions of Hale's "New Remedies" are replete with sketches of greater or less extent, consisting either of provings originated by the author or obtained by him from reliable sources. In regard to these books I would advise you also to confine your reading for the present exclusively to actual narratives of provers as contained therein.

When I alluded to drug-effects stated in the order of their occurrence, I gave you what appears to me the keynote of the study of the *materia medica*. Unless it is offered you in the form of an interesting narrative of events, related in the order in which they occurred, you will find it uninteresting and unintelligible. When I compare it to a narrative I do not mean only what we have been accustomed to call homœopathic *materia medica*, for logically speaking there is no such thing; neither is there an allopathic or eclectic *materia medica*. Such terms are as ill applied as it is to speak of homœopathic chocolate or homœopathic phials. It is alone the therapeutic use which determines whether a drug is homœopathic or allopathic, whether synergistic or antagonistic.

In whatever way medicine may be applied, it is absolutely imperative that he who applies it should possess most complete knowledge of its properties. Now, this knowledge is not to be derived from what this or that author thinks it does, it is not to be obtained by the perusal of theoretical observations which make up the greater part of old-school *materia medica*, much of which has found its way into some of our books; but it is to be found alone in straightforward recitals of the effects which a drug is capable of producing upon the healthy animal (human) organism.

Any school of medicine which ignores this source of information does not deserve the name of a school of medicine. There is positively no other method of studying medicine proper than the one insisted on by Hahnemann. This is a literal definition of medicine; and the more we adhere to the literal interpretation of the term, the more we shall deserve to be called medical men, or physicians, inasmuch as this term is derived from the use of medicines.

In whatever way you study *materia medica*, whether you regard medicines as antagonists (allopathic) to disease, or whether you take advantage of their synergistic (homœopathic) effects; you will have only one way open to reach the requisite knowledge,— by proving.

Whether hereafter you classify your medicines in the old form, partly according to certain prominent effects like cathartics, or according to some general effects like tonics or alteratives, you can arrive at the necessary knowledge upon which to base such classification only from experimental study of drugs upon the living organism,—by proving.

Whether hereafter you call yourselves homœopathists, alloœopaths, or whatever else there may be of titles, you must base that distinctive title upon what you have learned about drugs by proving, that is inductive experimental study,—proving.

Fortunately in modern times this source of information is ignored by none. In all physiological and toxicological laboratories throughout the civilized world, the only method of seeking for light regarding the effects of drugs is according to Hahnemann's example; that is, the effects of medicine are nowadays studied upon the animal, and in many instances upon the human body. No investigator in the Old or in the New World nowadays thinks of getting at the truth according to the old way of trying medicines on the sick or by studing obsolete treatises.

Whatever fault the opponents of Hahnemann may find, they will no doubt acknowledge that his (inductive) method of experimental research is the only profitable one.

Then let short provings upon yourselves and a few domestic animals furnish you with the first rough outlines of a number of drugs. If you make it a rule to investigate one during every fortnight of your medical studies, you may easily acquire considerable knowledge of fifty drugs,—a knowledge which will outweigh any thing that you may get from books. There are not many authors of large books on drug pathogenesey who have ever tried a single one, or who possess any practical knowledge of proving. When you have obtained even a little of such experience, you will be surprised at the credulity with which book-makers seize upon entirely unreliable material. Most authors regard proving as an easy matter. To them it is: take a drug, and note effects, all effects so noted are then to be incorporated in the *materia medica*. I am very glad to be able to say that with the "Cyclopaedia of Drug Pathogenesey" a new era has begun by publishing only that which repeated experiments have proved to be at least tolerably reliable, although, for one, I could have wished that the methods of critical selection brought to bear upon the material composing this new work had been more radical.

But I heartily indorse it, and advise you to use it. But here, again, you will meet with difficulty. Although most of you will be interested in the intelligible accounts of drug-effects, and will experience no great trouble in remembering much of them,

you will still struggle in vain to master them, unless you are shown some better way.

There are many ways of learning a lesson, or, as in our case, a branch of science; but whatever may be your mental habit, you will master little or nothing without method in the arrangement of your subject. You will have experienced this in your study of anatomy, by which my meaning may be made intelligible. I remember with pain my first attempts at committing to memory the parts and their names of the bones. This I tried to do by learning them by heart without proper arrangement; I endeavored to learn the descriptions, as contained in the book, by heart, and made no progress until an experienced student of anatomy came to the rescue. Holding up a bone at which I had mentally gnawed for days without profit, he said, Now, look at this: see, it has an upper surface, bounded by irregular edges; do not turn it over, but view it constantly in one position, and you will observe that it has an anterior and a posterior extremity, and lastly an inferior surface. Now, begin with the superior surface, and remember its foramina and rough lines. This was soon done. Next you may remember the principal processes, first of the right edge, then of the left; and this done you may observe the peculiarities of the inferior surface.

In this way I mastered at last one bone thoroughly; and applying the same method of mental arrangement to the other bones, I found it to suit my mental capacity much better than my previous crude and unmethodical attempts.

You need not even try to learn by heart anatomically arranged symptom-lists; you may try to learn, if you can, narratives of provings, but I would scarcely advise you to continue your efforts long in that direction. Instead of tedious memorizing, I would suggest an easier way, one that calls into play the reasoning faculty, as I shall endeavor to make plain to you in my next lecture.

II.

ANALOGIES BETWEEN DRUGS. CONDENSATION OF SYMPTOM-LISTS.

METHODICAL work is reasoning work; I would therefore advise you to continue in this methodical method, by next arranging your material in methodical order. As you find it in your condensed as well as encyclopaedic text-books, your material is in the most chaotic of alphabetical orders. Creation did not proceed upon the alphabetical plan, bringing order out of chaos. Let us imitate the natural process, according to the best of our feeble human ability, and first take a look at the natural order of

our material. Here we find that animals, plants, metals, minerals, and compound chemical preparations are divisible, if not always, like animals and plants, into orders, genera, and tribes, still into kinds the members of which have perceptible relationship through common properties and resemblances.

Let us take first, of the vegetable kingdom, an order, or family of generically related members. In selecting such a group, take any reliable text-book of botany, e.g., Gray's; open the book, and you will soon come upon families of plants and their genera. Take up any family you happen to hit upon, and read over successively the different genera and tribes belonging to it, and you will discover that there is scarcely a family group that does not embrace one or more plants which are also contained in our books on *materia medica*, be they old or new school.

Now write out all the names of plants which are known to you as officinal, arranging them in groups according to botanical orders. Let us suppose you had singled out the *solanacæ*, or nightshade family; now let your eyes glide leisurely down the very conveniently arranged list in "Gray's Botany," and you will at once single out the following plants whose names are familiar to us as those of medicines. There you find: *solanum dulcamara*, or bittersweet, *solanum nigrum*, or common nightshade; *hyoscyamus*, or henbane; *datura stramonium*, or thornapple; *nicotiana tabacum*, or tobacco; *atropa belladonna*, or deadly nightshade; and *capsicum annum*, or red pepper.

Now, in writing out these individual names, all belonging to one family, this circumstance is most suggestive. We know that members of families resemble each other closely: if this is not quite so readily perceptible in the families of the higher classes of mankind, it becomes much more conspicuous as we descend in the scale of nature, where we shall find that the resemblance of tribes and species among the lower races of man and animals, as well as in the kingdom of plants, is very striking.

From this you are justified in drawing the inference, that, if plants resemble each other outwardly, they will also bear near relationship in regard to their inner properties as drugs and medicines, as which they are used by man. In this you will not be mistaken. Now take up any reliable description of the effects of *atropa belladonna*, and you will perceive, on reading the history of its effects, that prominent among them are, for instance, spasmotic affections, with distortion of the eyes, laughing, stretching of limbs, rage, etc.

You will find that *hyoscyamus* also produces spasms, diarrhoea, coldness, flexion of the limbs.

Stramonium exhibits among its prominent effects convulsions with violent motion; also rage.

Dulcamara produces one-sided convulsions, which begin in the face. Diarrhoea and mucous discharges are there noted.

Capsicum offers nothing severer than drawing in the limbs, sprained pain.

Tobacco produces spasms of a tetanic kind; also trembling and nausea.

This list is long enough to illustrate my meaning. These vegetable substances have close resemblances by virtue of their family relation. They are not identical, but similar to each other, as indicated by the broad rough outlines I have given. They are much alike in general character, but differ in minor details. By more careful comparison of other groups of effects as produced on the various organs, you will readily perceive the same conspicuous analogies. In noting these, remember always that the differences, which are often slight, are differences nevertheless, and that those differences in their effects, even in the rough outlines, are of equal importance with those external differences in form upon which the distinction into tribes and species is founded.

We make use of their differences therapeutically; they point out to us why one and not another member of the family is to be used. But let us leave this out for the present, and consider only the points of close resemblance. On this is based my plan as to the readiest reasonable way of impressing your memory with drug effects; expressed in the most concise manner, I mean to say that *if you have carefully studied one prominent member of such a family of plants, you will already have learned much concerning all the others.* If you have got hold of the essential features of the effects of belladonna, you may surmise, with dominant chances of being correct, many of the distinguishing features of many, if not all, of the other members of the group. They agree in important generalities, but differ in details; still, let me remind you that details even are related in each group.

Do not take alarm at this long description; the whole process of mastering one member of a family of plants, that is, of becoming acquainted with its drug action, will not be the task of hours, but of minutes, even for a mind of average capacity, provided it has some notion of methodical study. The list is soon written out. Without consulting any alphabetical list of remedies, you will recognize the medicinal members of a botanical group. The reading twice or thrice of some reliably recorded proving of the one member selected is also done in a short time. The mind readily retains the important features of a proving, and now being aware that the proving of the other members of a group is in large measure an analogue of the first, the recognition and remembering of the others is less difficult than the first. The

preliminary study of *materia medica*, then, is not a task of years, but can be absolved to a practical extent in a few weeks.

The principle of studying *materia medica* by analogies of family members is very noticeably illustrated by the study of the *Ranunculus* group, the *Strychnos* or *nux vomica* group, etc.

It is true that this method of study is best applicable to drugs derived from the vegetable kingdom; but when we have mastered a reasonable number of these, we have acquired a large share of *materia medica*. Still it remains for us to delve into the animal kingdom. Here we find mollusks, radiates, insects, it is true, but only isolated members of separate groups, rarely allowing us room for generic comparison. This, however, can be compensated for by other steps in our methodical studies, to be described later on.

The metals and their chemical compounds offer a better opportunity than animals for study by the method of analogies. I will not tire you by repeating the description of my method, but will confine my remarks to the statement that metals and their chemical combinations form groups which you will find conveniently arranged in any good chemical text-book. Thus you will find the iron group, comprising iron, alumina, zinc, manganese, nickel, cobalt, chromium. There is the arsenic group, containing antimony, tin, platina, silver, bismuth, copper. The gold group, with lead, quicksilver, cadmium, etc.

Chemical compounds form groups like those of the salts, such as potassic nitrate, sulphate, bichromate, carbonate, etc. The sodic and calcic salts are nearly related groups; while the haloids such as chlorine, fluorine, bromine, iodine, cyanogen, form closely allied family groups, with clearly marked analogous medicinal properties; for the study of which, the bromides constitute a familiar example, illustrating the suggestion of study by prominent analogies first, with the addition of differences later, just as we propose to study plant-substances.

Some may raise objections to these proposed methods. I fancy I hear them say that Hahnemann said that each drug was different and distinct from the other, and that members of family groups, in Hahnemann's sense, must be considered quite as different as if they were not related at all, botanically or chemically. To that I would reply, that, if such objectors had ever resorted to methodical study of any thing, especially of *materia medica*, there would have been little need of certain kinds of repertories, like, for instance, Boenninghausen's, jumbling the most heterogeneous things together, according to wholly arbitrary groups of "symptoms" having no foundation in fact or nature, and derived from sources which are not mentioned anywhere.

The physician should have the essence of his *materia medica* fresh and ready in his mind, prepared by some form of methodical study, which will save him the trouble of laboriously picking out his remedies for each case from repertories. These have their uses; they are as indispensable to us as dictionaries are even to literary men of renown; but a literary man would not establish a reputation if he had to look up every word in a dictionary, as some doctors, who did not study properly when young, have to look up each symptom.

Having now obtained a preliminary knowledge, which, however, may serve as a solid practical foundation, we come to the study of extended symptom-lists. As already stated, reliable narratives of provings should be preferred. If these are read after personal experiments in proving of drugs, the symptom-lists arranged according to parts of the body, like Hahnemann's *Materia Medica* (translated by Dr. Dudgeon), or Allen's "Encyclopædia," or even Hering's "*Condensed Materia Medica*," may be used profitably; still I would prefer the narrative arrangement of Hughes's "*Cyclopædia*" to the others, for study especially. For practical purposes, a combination of both arrangements is desirable, and would be accessible if it were not for the great cost of printing such voluminous records.

The question now arises, of how to master such narratives or other compilations. If you endeavored to do so without preparation and proper method, you would soon be hopelessly discouraged, and I have no doubt that many of the deplorable departures from homœopathy, pure and simple, are due to disappointments arising from fruitless, because unmethodical, study, which leads to departures in two directions: to high potencies and faith-cure on the one hand, and to the disregard of homœopathic principles on the other.

You have arrived at a point where you have acquired a good preliminary knowledge of *materia medica*. Who knows but that you have learned all that is really valuable and practical? Yet it is unsafe to settle down to such a state of stagnation; we should strive to attain more. You may have more than a rough sketch; it may be a good and complete outline of *materia medica*, yet you will desire to add lights and shadows, and more details. Now, to obtain these, you come to the longer symptom-lists. Let us suppose these were Hahnemann's, or Allen's, if you have not got the New Cyclopædia.

There are several ways of methodically arranging your material for study; of these the following is one: *It is to condense, either mentally or in writing, the long symptom-lists and narratives.* Supposing, then, you had before you Allen's Encyclopædia, from which you desire to learn all you can concerning, e.g.,

belladonna. In order to do this, carefully read over several times a given group, let us say, the head-symptoms of belladonna in Allen's work ; in this way, without possessing an exceptionally retentive memory, you will easily retain the principal features of the group you have been reading ; not only this, but much more : you will presently be surprised that you have mastered nearly the whole, because the group consists chiefly of repetitions of the same symptoms, only expressed in slightly different words.

Let us look at this specimen group. These are its words (p. 76, vol. ii.): "The whole head is muddled for many days. Bewildered feeling in the head. Confused and muddled head (after five minutes). Confusion of the head, aggravated by movement. Confusion of the head on moving it, but still more on walking ; even when relieved, it returns immediately on walking (after five minutes). In the evening he complains of confusion of the head, as in incipient intoxication, with continually increasing dulness. Confusion of the head, with cloudiness and feeling of intoxication, as from smoking tobacco and drinking spirits. Head confused, with pain in the forehead."

Then follows a long list of "*vertigo symptoms*," which, like the other groups, I will omit, as the above are more than enough for my purpose.

It cannot fail to have struck you at once, that the head-symptoms I have quoted are mere repetitions, with very slight variations ; and I am sure that all of you retain the sum and substance of the whole group in your minds. It is repeating the same theme over and over again. It is a harping on a phrase, as it were, becoming noticeably tedious even in this short quotation. But it is this monotonous repetition which makes it easy to grasp the meaning. This would be a difficult task were every phrase different from the other, not only in words but in meaning. It is fortunate for us that it is not so. The reason of the sameness of these symptoms is, that they were obtained by different provers, or by the same prover repeating his experiment. Some of them were taken also from involuntary provings, that is, cases of accidental or intentional poisoning.

Let me lay emphasis on this circumstance of the agreement of symptoms, for by it you will recognize that the proving is a creditable one, and that the symptoms most likely resulted from the drug taken. For if this were not the case, there would not be this almost monotonous sameness. This is the most important, though not the only one, of several criteria by which to judge of the value of an experimental test or proving.

Now, let us see what our whole group means, and let me try to give its whole meaning in as concise a sentence as pos-

sible, and you will see that it is capable of condensation into this:—

Confused feeling in the head, like intoxication and the effects of tobacco, on moving, especially on walking, which aggravates, and renews it when better.

This expresses the whole, as far as this group is concerned. By comparing it over and over again with the text, you can neither add to it nor take from it any thing of essential importance.

Supposing, now, that, in place of Allen's symptom-list, we examine the New Cyclopaedia, on page 526 of which we find, under the head of "Belladonna," a long list of distinct provings of this drug. To be more accurate, we find there a long list of short narratives of the effects of belladonna as experienced by a great many different individuals, and many repetitions of the same experiment by the same individual.

This is studied as easily as the arrangement in Allen's work, and with greater advantage to the student. For you will find in the Cyclopaedia that the symptoms have not been torn apart and separated by arranging them into classes, such as head-symptoms characterized by "dulness" in a group by themselves, and head-symptoms with "vertigo" in another group; because, in reality, dulness and vertigo often occur together; and not only there, but often combined with distinct morbid signs in other parts of the body, such as nausea, unsteadiness of the legs, cramps, etc.

While it is very convenient for a busy doctor to have all the symptoms classified as Hahnemann, Hering, Allen, and others have done it, it is decidedly objectionable as an arrangement for the medical student.

If you will now apply the method I have proposed, of reading through the experiences of several provers, perhaps no more than is contained on three pages of Dr. Hughes' Cyclopaedia, you will soon discover that all the rest contained on the other seventeen pages is mostly a repetition of the substance of the first three or four pages. You will remember it even more readily than the anatomical arrangement; because in the narrative the logical sequence of effects is preserved, and we often anticipate correctly what follows after certain premonitory signs. It may seem to you as if you might have to read more, and hence, use up more of your limited time, when studying the narrative style; but in reality you have no more to read, and, besides, have the advantage of learning the order of events in their natural context. This will prove of inestimable value to you now as students, and hereafter as physicians, a large portion of whose lot it is to select medicines for ailments for which as yet we know of no better means of relief.

Another very profitable study of Dr. Hughes' work would be, after condensing the whole of a chapter of narratives of drug action, to separate and arrange the symptoms according to anatomical regions, or organs, after the manner of Hahnemann. I have said that this arrangement of symptom-lists is not adapted to the needs of the student; but I must here qualify this statement, by adding that if each of you will make the arrangement it will prove of great value to you, because careful analysis of each set of symptoms will thus impress them upon your minds. But remember, it will not benefit any one but the student who made the analysis.

This arrangement may profitably and practically be made after the process of condensation. This condensing process needs but little practice, especially in the case of those who have had proper preparatory training at schools and colleges; but with a certain amount of talent and industry, you will learn to read over more than a page, and to condense its contents by a mental operation, the result of which you can, according to the tenacity of your memory, reduce to writing before you forget it.

But there is no limit to the different expedients that may be resorted to for the purpose of acquiring correct knowledge of *materia medica*. While the process of mental or written condensation of narratives of drug-effects is the most practical and rapid one, a careful and conscientious student will find it a most profitable undertaking to attack a whole chapter of such narratives, and to reduce it to anatomical arrangement. If time will not permit the re-arrangement of many complete drug-provings in this manner, it will be no thankless task to have analyzed a few of the best-known drugs in this way.

It would be a waste of time, however, to thus arrange a poor proving. This you may generally recognize by the striking incongruity of observations by different provers. Where you meet with these, avoid them. There are quite enough of a reliable character.

Let me again impress it upon you, that the result of such writing is of value almost exclusively to the writer. To illustrate my meaning, let us suppose that one of you who had neither attempted proving upon himself, nor had read the pathogenesis of belladonna in Allen's work, or elsewhere, should attempt to study my condensation of the head-symptoms, as quoted before: he would get a poor idea of the subject; but to me, who wrote it, it recalls at once the details. Moral: Never copy from one another, nor depend on others' notes for lectures not attended personally.

If you have entertained the opinion that it is easier to study *materia medica* by availing yourselves of some highly abridged

or condensed *materia medica*, I trust that you will now abandon such notions. These abridged works, ponies, *vade-mecums*, etc., are in every sense like the beef-extracts and patent foods, for which their proprietors claim that each teaspoonful is equal to a pound of meat as a nutriment.

Take my advice, and do not abandon sound mental pabulum derived from trustworthy sources, and good table board prepared in honest kitchens.

Condensed *materia medica* and anatomically arranged symptom-lists will be a dead-letter to you. They are useful only to him who has formerly proved medicines, or who at least has studied the whole pathogenesis of remedies, and to one who has experience in the practice of condensing. Just such is the skill which our best students acquire by the practice of taking notes, which I am glad to see is the rule among you. Therefore, do not fear voluminous details or long symptom-lists; with a little good-will and intelligent practice you will easily reduce voluminous provings, and, what is best, suit them to your individual understanding.

Let this understanding rest on this: Self-proving; reading of reliable pathogenesies, toxicological essays and experiments; condensation and analyses; and lastly upon the *analysis of each symptom*, the method of which I shall discuss in my next lecture.

III.

ANALYSIS OF SYMPTOMS.

HERING, in his pamphlet on serpent-venom, compares the study of the *materia medica* to learning the streets and alleys of a large city. The stranger who has never visited a large city, first notices and remembers the chief thoroughfares, and then the smaller streets and landmarks. The plan I shall propose is founded on the observation that each "symptom" or distinct sign of a morbid ("pathological") condition is composed of several parts.¹ Like a sentence or phrase of spoken or written language, each symptom has what may be compared to the parts of speech of a sentence, a subject, adjective, verb, adverbs, prepositions, etc., which are interdependent on each other. Now, when we examine any carefully expressed and qualified "symptom," we shall soon see that it is composed of parts, which may be aptly likened to parts of speech. Every sign of disease, or symptom, if expressed with tolerable perfection, is capable of being parsed, or separated into its component elements, like a sentence in writing. Let me give you an example at once:—

¹ See B. Hirschel's *Grundzüge der Homöopathie*.

Confusion in the head, and pain in the left frontal protuberance, while walking in cold air.

Let us analyze this :

There is a *part* which is affected.

There is a *manner* of its affection.

There is a *time* of the occurrence of the affection.

There are *conditions* under which the pain occurs.

Not every pathological sign is so completely given; in some the sensation or pain is only stated, and the locality in which it occurred; but every thing is useful when properly examined, and it must strike you at once that looking at the subject in this way will open to you a new and easy method of studying symptomatology, which is really what we are trying to learn when studying *materia medica*.

The best way to gain not only temporary advantage, but permanent good, from your studies in this direction, is by writing, that is, by learning to study your books with pen in hand. But in urging this, let me caution you against dry literary work. A certain amount of this is absolutely necessary, but not until you have done practical work; not until you have tested, felt, experienced upon yourselves, and not until your perceptive faculties have had some training. When this is accomplished, take up the symptomatology, which is the result of pathogenetic effects of drugs (*materia medica*); and this, again, may be studied in two ways.

In the first place, you may take up the condensations of drug effects you have noted down. Supposing you had before you a condensed account of the effects of belladonna. This consists of a moderately long list of "symptoms," some of which are given with all their details and conditions, others are very briefly expressed. It makes no difference whether they are anatomically arranged, or in what I have termed the narrative form. Next, take an ample sheet of writing-paper (foolscap size is the best), and divide it into four parts by ruling lines from top to bottom. Over the first column write the heading, "Kind of sensation;" over the second, "Part affected;" over the third, "Time of occurrence;" over the fourth, "Conditions (under which the sign occurred)." This is the work of a few minutes, and you may now proceed to write each symptom so that each part of it will fill that portion of the ruled columns to which it properly belongs as indicated by the heading.

The following example will clearly illustrate the simplicity and usefulness of the method:—

KIND OF SENSATIONS.	Part affected.	Time.	CONDITIONS.
Dryness	Mouth, cavity.		
Harseness, deviation of mucus, frequent sneezing	Mouth.		
Tongue adhered to palate	Tongue, palate.		
Esophagus obstructed, violent pressure, inclined to vomit	Stomach.		
Swelling, flatulence	Vagina.		
Sinking	Uterus, region.		
Pain ex-nihilo, supporting slowly, dry in a few days	Face, skin.		
Redness, burning fauces	Fauces.		
Heat that glowed and became brownish red in	Face.	[more walking.]	
Confusion in	Head.	By moving head,	
Vision obscured	Eyes.	Better from coffee.	
Nose dry, sneezing; mucus mixed with blood blown from	Nose.		
Chest pressed in	Stomach.		
Increased pain in	Thorax.		
Injected condition of	Lids, conjunctivæ		
Pain with hiccough	Low part of larynx	After eating.	
Dilatation of pupils, weariness of lids	Optic pds., lids.		
Ringing in ears, sleepiness	Ears.		
Dullness of intellect,			
Swallowing difficult	Pharynx.		
Pulse rapid	Arteries.		
Vertigo; staggered in his walk as if drunk; drowsiness; headache; face very red; sight (of letters) multiple, not clear, and irregular, pupils much dilated, great dryness of throat	Head, eyes, throat.	While reading.	
Annoying weakness of sight, letters seem to swim, eye as if paralyzed	R. eye.		
Pains at first severe, transient fine shooting pains in, with feeling of heat coming against them	Both eyes, pupils.		While writing,
Quivering of	Upper lid.	walk'g in open air.	
Vigorous, chattering of teeth, limbs tremble as in cold stage of intermission, fell asleep; very hot on waking; had wide pupils, glistening protruding eyes, as if swimming in tears, and redness of face.	Teeth, limbs, pupils dilate, eyes protrude.	Walking in open air.	
Slight buzzing in ears, blurring before eyes, recurrence of twitching of left upper eyelid; feeling of fulness in abdomen; no appetite; swallowing difficult.	Ears, eyes.	After a meal, im-	
Very frequent urging to micturate; though could only pass a few dro. s at a time	Left upper lid.	mediate on wak-	ing.
Headache which was aggravated by stooping, recurred on moving and stooping for a long time afterwards; though it at first passed off sooner than the eye-affection.	Anterior.	Till 11 P.M.	
Headache	At noon.	For a long time	On moving and stooping.
Scraping along anterior wall of larynx causing dry, short cough, and hoarse voice	Anterior wall of larynx.		Always returns on moving.
Secretions of glands of mouth, and saliva, entirely suspended. A draught of water, instead of giving relief, seemed only to increase the unctuous clammy state of mucous membrane. The sensation was most distressing. It induced a constant attempt at deglutition, and finally excited suffocation; spasms of fauces and glottis.	Mouth, fauces, glands, mucous membrane back of pharynx.	(Glottis cramp.)	Worse on swallow-
Extravagant language and gesticulations	Cerebrum.		ing.
While judgment was sound, nothing could rid his eyes of a legion of disgusting spectra.			
Passed in an hour three pints of urine, with slight strangury at	Neck of bladder.		Better after coffee.

SUMMARY.

The student will see from this that the parts principally affected are the head, mouth, throat, and fauces; that the character of the affection points to the implication of the nervous system, as indicated by spasm and hallucinations; that the mucous membranes are involved throughout their thickness, as

indicated by the nervous reflexes of throat and fauces, sphincters, etc.; that the optic nerve as well as motor nerves of the eyes are involved in the effect; and that conditions of aggravation are chiefly motion, open air, etc. The brackets at the side indicate the different narratives from which the above list has been condensed; it embraces the chief characteristics of the effects of Belladonna; but other details are contained in the subsequent pages of Dr. Hughes' Cyclopædia, pp. 526-546. It shows how to condense many pages into a few, and how to arrange the symptoms analytically after having condensed them, which may be done mentally, but to greater advantage in writing.

This will, I trust, give you an idea of the plan proposed. The symptoms have been taken from Dr. Hughes' Cyclopædia, Part III., p. 527; but, by way of illustration, I have added a couple of longer sentences, which, though not in that part of the Cyclopædia, are peculiar to the drug, and show how the symptoms may be arranged in the ruled columns.

The shorter, and yet very practical, way to proceed, is to arrange under the described headings your own condensations; but I assure you that it will be a most profitable undertaking to try your hand at a few, at least, of the long symptom-lists, especially those of the narrative style, as contained in Dr. Hughes' Cyclopædia.

As this work is not yet complete, you may have to content yourselves for a time with the anatomical arrangements of Dr. Dudgeon's translation of Hahnemann's Materia Medica, Allen's or even Hering's Condensed Materia Medica, or others if you happen to have them.

The great advantages of having arranged your condensed symptom-lists in this analytical form are manifold. Some of the principal advantages to be gained are these: First, The student learns to condense into small space that which, in its completeness, covers many printed pages; he thus obtains an abridged *materia medica*, which, though shorter in words, contains the substance of the whole. Such an abridgment is of greater value than any book he can purchase. Secondly, When this abridged symptom-list is arranged in columns according to *place, time, and conditions*, it requires only a glance to take in the leading features of any remedy, especially the conditions under which symptoms occur. Thirdly, Having accomplished this analytical arrangement, the chief characteristics of a medicine *should be summed up at the foot of each column, which, though very brief, will serve as a life-long memorandum*, which, according to the laws of memorizing, will help the student to recall the whole, with its details.

By such details I do not mean the remembrance of words and phrases, as printed in the book, the memorizing you so much and so justly dread, but I mean the essence and actual meaning of a whole symptom list. Committing symptoms to memory, verbatim, is useless; it leads to mechanical routine and symptom-covering, which will rarely, if ever, produce desired therapeutic results. It is the inner meaning that is to be read be-

tween the lines of a pathogenesis. By the kind of study I have in view, you will be enabled to interpret correctly the meaning of symptoms, as recorded in books, as well as those which you discover in your cases of disease.

Before closing this subject, let me briefly allude to another important step that is worth taking in studying what is ordinarily termed *materia medica*: *it is the study by comparison*. Though I mention this last, it is perhaps of greater importance than the other methods I have suggested, and is most profitably undertaken as one of the last studies.

According to older methods of study, as proposed long ago by Hering, the medicines were to be assorted, by a kind of random comparison, into those which resembled each other in their effects, and those which differed. But as it cannot be known beforehand what is alike and what different, such comparisons were necessarily tedious and uncertain. Having discovered, at length, what was similar and what different, the members of each class were then to be compared among each other, to discover minor differences and agreements.

In the method presented to you here, you begin with an *a priori* rule, assuring you, to a large extent, of classes which agree and which differ, by following simply botanical, chemical, and zoölogical groups.

The method of making these comparisons is, to take up your self-made, abridged lists; then, if not already taken directly from an anatomical arrangement, they should now be arranged in that order; that is, to place all head, chest, abdominal, etc., symptoms into separate groups. Having done so, compare the various members of a group together. This may be done mentally, but much more advantageously by writing them down in columns, on a large sheet of paper. By thus placing symptoms side by side, you will readily see differences and congruities, which you may briefly note at the foot of such sections; e.g., at the foot of *head symptoms, abdominal symptoms, etc.*

Having compared the individuals of a group,—say the Belladonna group,—you may next proceed to compare these, placing them side by side with some other group; for instance, the Ranunculus group, or the Strychnos group.

Indeed, the methods which suggest themselves are very numerous. Each student or physician may invent others if these do not suit his mental habits. But I would urgently advise you to select some practical method of this kind; but not to let things drift along, hoping and trusting that in future practice your reliance on repertoires will in time furnish the experience and practical routine you need. All you will get by that will be an uncertain habit of groping about; and this, in turn, will surely

lead to want of confidence in yourselves, and inability to separate that which is reliable from that which is useless. This is a grievous fault to get into, because the *materia medica* is far from perfect: not every thing in it is true, and not every thing that is true is good. Now add to this truism the other, that what is bad, erroneous, or even fraudulently recorded, is to be discarded unconditionally, and you have before you a path which is by no means free from dangers, or at least from failures.

Again, let me assure you that my object is not to lengthen, but to diminish your hours of study, by saving time, but not by leaving undone what ought to be done.

Though this lengthy exposition may call up visions of tedious and long hours of dry work, it may cheer you to know, that, in the time devoted to this discussion, half a dozen remedies might have been studied by each of you, had you followed this, or perhaps a better plan, by your own experience suggested to you.

